PREFACE

This manual was written specifically for the local, state, or tribal governments that have the primary responsibility for operating and maintaining flood control works. The intent of the document is to provide you, the public sponsor of a flood control system, with some clear and comprehensive guidance on the operation and maintenance of levees, floodwalls, and other flood control structures. It describes how to plan and prepare for high water, and lays out steps to take during emergencies that will help reduce the threat of flooding. It also touches upon other related components of a complete flood protection program, such as how you might promote public awareness of local flood issues.

In addition to providing recommendations on how to make your flood control programs more effective, this manual also explains the types of assistance that the U.S. Army Corps of Engineers can provide to a community before, during, and after a flood. We hope the information presented will make the emergency programs we administer more clear and accessible.

One of these programs referenced throughout this manual is the Rehabilitation and Inspection Program. Through this program, the Corps helps communities rehabilitate flood control projects that become damaged in a flood. These types of repairs are often so costly that they would be difficult for a community to complete without assistance from the federal government. In order for communities to participate and benefit from this program, they need to properly maintain the flood control project and prepare for high water. One of the primary purposes of this manual is to clearly explain the minimum requirements that the Corps has established for participation in this program. The Corps will verify that the basic requirements are met through routine inspections. These inspections are not intended to be a burden, but to help you identify potential problems and properly maintain your infrastructure so that your community is better protected from floods.

Without a firm understanding of the details or requirements of a flood control system, many people tend to take the protection provided by the flood control project for granted. Floodwalls tend to blend in with the scenery in industrial areas and levee slopes are used for concerts and picnics. While there isn't anything wrong with this, it makes it easy to lose sight of the true significance of these structures. There are intricacies to these systems that require detailed knowledge for operation and maintenance, and many tasks that need to be carefully coordinated during high water. A flood protection system simply cannot be relied upon if it hasn't been properly maintained or if people aren't trained and ready to operate it during high water.

As a public sponsor of a flood control project, you should be prepared to carry out maintenance activities on your flood control structures every year. Regular maintenance is critical, because many types of problems will escalate exponentially when left unchecked. There are many ongoing requirements of which you should be aware. For example, debris and unwanted growth needs to be removed from levees, riprap, the areas adjacent to floodwalls, and from channels. An animal control program is needed on levees, and any burrows that are

found need to be filled properly. Metal gates and other components need to be painted and greased periodically. Concrete damage needs to be identified and repaired early or it will get worse, especially in northern climates where freeze-thaw damage becomes a factor. Beyond these examples of ongoing maintenance, there are also more significant repairs that will be necessary from time to time. Sometimes, you may have to add stone to control an erosion problem, or do some major earthwork to repair an embankment. Metal culverts running through a levee will have to be completely replaced from time to time, because they typically don't last more than about fifty years. Pump stations also need to be completely overhauled periodically. Don't let these larger repairs take you by surprise, as they are to be routinely expected in any project, and you can plan for them in advance.

You can also plan and prepare for what you are going to do when there is high water. A listing of the various activities you might have to coordinate is presented in this manual, but this list is not exhaustive, and it is not designed to be used by itself. As the public sponsor, you are responsible for developing and maintaining a basic flood response plan. You may wish to start with the general information presented here, but a lot of details such as likely location of sand boils, key personnel, and the location of closings, gates and other important project features should be collected and clearly documented in one place. Plans need to be tested, personnel need to be trained; and necessary supplies such as sandbags and plastic sheeting need to be maintained for emergency use.

The proper operation and maintenance of a flood control system is a challenging and complex responsibility, but is vital to communities that have been constructed within the flood plain. When the water rises, it can be quite sobering when one realizes that the river on the other side of a floodwall or levee is actually flowing above the ground level, and that a simple wall or levee is the only thing keeping it from crashing down and filling your streets. This is when all of your maintenance and vigilant preparation pays off.